

August 26, 1999

Certified Mail: Z 365 081 883

Steve Nied, Environmental Engineer  
Jupiter Aluminum Corporation  
1745 – 165<sup>th</sup> Street  
Hammond, Indiana 46320

Re: **MMT089-11098-00201**  
Minor Source Modification to:  
Part 70 permit No.: **T089-5838-00201**

Dear Mr. Nied:

Jupiter Aluminum Corporation was issued a Part 70 operating permit (T089-5838-00201) on March 4, 1998 for a Secondary Aluminum Production Plant. An application to modify the source was received on January 11, 1999. Pursuant to 326 IAC 2-7-10.5 the following emission units are approved for construction at the source:

- (1) Annealing Furnace No. 4 (AS-6) (Stack ID AS-6.1 and AS-6.2)

This unit has a maximum design rate of 13.5 MMBtu/hr and is natural gas fired only. This unit is used to stress-relieve rolled aluminum strip coils. There is no pollution control equipment associated with this facility.

- (2) Annealing Furnace No. 5 (AS-7) (Stack ID AS-7.1 and AS-7.2)

This unit has a maximum design rate of 13.5 MMBtu/hr and is natural gas fired only. This unit is used to stress-relieve rolled aluminum strip coils. There is no pollution control equipment associated with this facility.

The following construction conditions are applicable to the proposed project:

General Construction Conditions

1. The data and information supplied with the application shall be considered part of this source modification approval. Prior to any proposed change in construction which may affect the potential to emit (PTE) of the proposed project, the change must be approved by the Office of Air Management (OAM).
2. This approval to construct does not relieve the permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.
3. Effective Date of the Permit  
Pursuant to IC 13-15-5-3, this approval becomes effective upon its issuance.

4. Pursuant to 326 IAC 2-1.1-9 and 326 IAC 2-7-10.5(i), the Commissioner may revoke this approval if construction is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.
5. All requirements and conditions of this construction approval shall remain in effect unless modified in a manner consistent with procedures established pursuant to 326 IAC 2.
6. Pursuant to 326 IAC 2-7-10.5(l) the emission units constructed under this approval shall not be placed into operation prior to revision of the source's Part 70 Operating Permit to incorporate the required operation conditions.

The proposed operating conditions applicable to these emission units are attached to this Source Modification approval. These proposed operating conditions shall be incorporated into the Part 70 operating permit as an administrative amendment in accordance with 326 IAC 2-7-10.5(l)(1) and 326 IAC 2-7-11.

This decision is subject to the Indiana Administrative Orders and Procedures Act - IC 4-21.5-3-5. If you have any questions on this matter call (219) 853-6306 and ask for Ronald Holder or Debra Malone.

Sincerely,

Ronald L. Novak, Director  
Hammond Department of Environmental Management  
Air Pollution Control Division

Attachments

RH

cc: File - Lake County  
U.S. EPA, Region V - Cheryl Newton  
Permits Administration - Mindy Hahn

**Hammond Department of Environmental Management  
Air Pollution Control Division**

**and**

**Indiana Department of Environmental Management  
Office of Air Management**

**Technical Support Document (TSD) for a Minor Source Modification  
to a Part 70 Operating Permit**

**Source Background and Description**

Source Name:	Jupiter Aluminum Corporation
Source Location:	1745 – 165 <sup>th</sup> Street, Hammond, IN 46320
County:	Lake
SIC Code:	3353 – Aluminum Sheet, Plate, & Foil
Operation Permit No.:	T089-5838-00201
Operation Permit Issuance Date:	March 4, 1998
Minor Source Modification:	MMT089-11098-00201 and AAT089-11158-00201
Permit Reviewer:	Ronald Holder

The Hammond Department of Environmental Management (HDEM) has reviewed a minor source modification application from Jupiter Aluminum Corporation relating to the installation and operation of two (2) annealing furnaces (Numbers 4 and 5) to be added to their existing furnaces (Numbers 1, 2, and 3). There will not be any increase in the potential to emit of the other parts of this secondary aluminum process due to the addition of these furnaces.

**History**

On January 11, 1999, Jupiter Aluminum Corporation submitted an application to the HDEM requesting to add two (2) annealing furnaces to their existing plant. Jupiter Aluminum Corporation was issued a Part 70 permit on March 4, 1998. Pursuant to 326 IAC 2-7-10.5 (d) (4) (B), the addition of these two (2) annealing furnaces to Jupiter's existing furnaces constitutes a minor source modification.

**Existing Approvals**

The source was issued a Part 70 Operating Permit (**T089-5838-00201**) on **March 4, 1998**. There have not been any revisions, administrative amendments, or modifications. This is the first minor source modification and the first administrative amendment to their Part 70 Permit.

**Enforcement Issues**

There are no enforcement actions pending.

## Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temp (°F)
AS 6.1 and AS 6.2	Annealing Furnace #4	35	3'	1800	170
AS 7.1 and AS 7.2	Annealing Furnace #5	35	3'	1800	170

## Recommendation

The staff recommends to the Commissioner that the Minor Source Modification be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on January 11, 1999. Additional information was received on June 23, 1999.

## Emission Calculations

See Appendix A of this document for detailed emissions calculations (**two (2) pages**).

## Potential To Emit Before Controls (Modification)

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA.”

Two (2) annealing furnaces	
Pollutant	Potential To Emit (tons/year)
PM	0.36
PM-10	0.36
SO <sub>2</sub>	0.07
VOC	0.63
CO	2.37
NO <sub>x</sub>	11.83

Note: For the purpose of determining Title V applicability for particulates, PM-10, not PM, is the regulated pollutant in consideration.

## Justification for Modification

The Title V permit is being modified through a Minor Source Modification. This modification is being performed pursuant to 326 IAC 2-7-10.5 (d) (4) (B), because the owner of this Part 70 source is proposing to add new emission units that would have a potential to emit of less than twenty-five (25) tons per year of any one pollutant, but greater than ten (10) tons per year of nitrogen oxides (NO<sub>x</sub>).

## County Attainment Status

The source is located in Lake County.

Pollutant	Status
PM-10	Moderate Nonattainment
SO <sub>2</sub>	Nonattainment
NO <sub>2</sub>	Severe Nonattainment
Ozone	Severe Nonattainment
CO	Attainment
Lead	Attainment

Volatile organic compounds (VOC) and oxides of nitrogen (NO<sub>x</sub>) are precursors for the formation of ozone. Therefore, VOC and NO<sub>x</sub> emissions are considered when evaluating the rule applicability relating to the ozone standards. Lake County has been designated as severe nonattainment for ozone.

## Source Status

Existing Source PSD or Emissions Offset Definition (emissions after controls, based upon 8760 hours of operation per year at rated capacity and/or as otherwise limited):

Pollutant	Emissions (tons/year)
PM	16.50
PM-10	10.32
SO <sub>2</sub>	110.49
VOC	18.10
CO	15.00
NO <sub>x</sub>	167.92
HAP (specify)	0

- (a) This existing source is a major stationary source because it has a potential to emit oxides of nitrogen that would equal or exceed a rate of twenty-five (25) tons per year in an area classified as severe nonattainment for ozone (Lake County) – 326 IAC 2-3-1 (q)(2), Emission Offset Definitions.
- (b) These emissions are based on 1998 Emissions Statement submitted by the source.

### Contemporaneous Increases including this modification for the purposes of Emission Offset

The table below summarizes the net emissions increases (potential to emit, after controls), from the proposed modification aggregated on a pollutant specific basis with all other net emissions increases from the source over a five (5) consecutive calendar year period prior to, and including, the year of the modification (see Appendix B – Contemporaneous Increases).

Process/facility	Potential to Emit (tons/year)						
	PM	PM-10	SO <sub>2</sub>	VOC	CO	NO <sub>x</sub>	HAPs
Annealing Furnaces #4 & #5	0.355	0.355	0.071	0.627	2.365	11.826	0.0001
Contemporaneous Increases	1.764	1.094	0.027	1.825	0.927	4.424	0.0000
Net Emissions Increase	2.119	1.449	0.098	<b>2.452</b>	3.292	<b>16.250</b>	0.0000
Emission Offset de minimis increase	---	---	---	<b>25</b>	---	<b>25</b>	---

Pursuant to 326 IAC 2-2 (b) (1), this modification to an existing major stationary source is exempt from 326 IAC 2-3, Emission Offset requirements, because the contemporaneous emissions increases for the last five (5) years are less than the Emission Offset de minimis levels for this severe nonattainment area. Therefore, Emission Offset requirements do not apply.

### Federal Rule Applicability

- (a) There are no New Source Performance Standards (NSPS) (326 IAC 12 and 40 CFR Part 60) applicable to this source. This is not a Primary Aluminum Reduction Plant; Subpart S does not apply.
- (b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs) (326 IAC 14 and 40 CFR Part 63) applicable to this source.

### State Rule Applicability - Entire Source

#### 326 IAC 1-6-3 (Preventive Maintenance Plan)

The source has submitted a Preventive Maintenance Plan (PMP) on March 26, 1997. This PMP has been verified to fulfill the requirements of 326 IAC 1-6-3 (Preventive Maintenance Plan).

#### 326 IAC 2-6 (Emission Reporting)

This source is subject to 326 IAC 2-6 (Emission Reporting), because it has the potential to emit more than one hundred (100) tons per year of PM-10. Pursuant to this rule, the owner/operator of the source must annually submit an emission statement for the source. The annual statement must be received by April 15 of each year and contain the minimum requirements as specified in 326 IAC 2-6-4. The submittal should cover the period defined in 326 IAC 2-6-2 (8) (Emission Statement Operating Year).

#### 326 IAC 5-1 (Visible Emissions Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following, unless otherwise stated in this permit:

Opacity shall not exceed an average of twenty percent (20%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

## State Rule Applicability - Individual Facilities

### 326 IAC 6-1-10.1 (d) (Lake County PM-10 Emissions Requirements)

Pursuant to 326 6-1-10.1, subsection (d), (Lake County PM-10 Emissions Requirements), Reverberatory Furnaces at this source, Numbers 2 through 6, have specific PM-10 limits. The Reverberatory Furnaces have specific Compliance Determination and Monitoring Requirements that will be unaffected by the addition of these two (2) annealing furnaces.

### 326 IAC 6-1-10.1 (h) (Lake County PM-10 Emissions Requirements)

Pursuant to 326 IAC 6-1-10.1, subsection (h), (Lake County PM-10 Emissions Requirements), the Process Boiler and the Annealing Furnaces at this source, Numbers 1, 2, and 3, shall fire natural gas only. Each of these combustion sources in Lake County has a 0.003 lb/MMBtu PM-10 emission limit. All five (5) annealing furnaces are used for the same purpose, therefore, the administrative amendment following this minor source modification will include the two (2) new annealing furnaces, numbers 4 and 5, in the same Facility Operation Conditions Section. The two (2) new annealing furnaces shall be subject to the same Emission Limitations and Standards and will be subject to the same compliance determination and monitoring requirements.

## Compliance Requirements

Permits issued under 326 IAC 2-7 are required to ensure that sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs IDEM, OAM, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-7-5. As a result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

Compliance Determination Requirements in Section D of the permit are those conditions that are found more or less directly within state and federal rules and the violation of which serves as grounds for enforcement action. If these conditions are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

The compliance monitoring requirements applicable to the two (2) annealing furnaces will be the same as those for the existing three (3) furnaces and are as follows:

### Compliance Monitoring Requirements [326 IAC 2-7-6(1)] [326 IAC 2-7-5(1)]

#### D.2.4 Visible Emissions Notations

- (a) Daily visible emissions notations of each Annealing Furnace stack exhaust shall be performed during normal daylight operations. A trained employee shall record whether emissions are normal or abnormal.
- (b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

- (c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.
- (d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.
- (e) The Compliance Response Plan for these units shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

These monitoring conditions are necessary because visible emissions could be an indication of an exceedance of the PM10 emissions limitations for the annealing furnaces as set forth in 326 IAC 6-1-10.1 (d).

#### **Record Keeping and Reporting Requirements [326 IAC 2-7-5(3)] [326 IAC 2-7-19]**

##### **D.2.5 Record Keeping Requirements**

- (a) To document compliance with Condition D.2.4, the Permittee shall maintain records of daily visible emissions notation for each Annealing Furnace stack exhaust.
- (b) All records shall be maintained in accordance with Section C – General Record Keeping Requirements, of this Permit.

#### **Air Toxic Emissions**

Indiana presently requests applicants to provide information on emissions of the 188 hazardous air pollutants (HAPs) set out in the Clean Air Act Amendments of 1990. These pollutants are either carcinogenic or otherwise considered toxic and are commonly used by industries. They are listed as air toxics on the Office of Air Management (OAM) Part 70 Application Form GSD-08.

None of the listed air toxics will be emitted from this source.

#### **Conclusion**

The operation of the annealing furnaces shall be subject to the conditions of the attached minor source modification MMT089-11098-00201.

The administrative amendment to the Part 70 permit will add these furnaces to the existing Facility Operation Conditions (Section D.2) for the existing Annealing Furnaces currently operating at Jupiter Aluminum Corporation.

**First Minor Source Modification MMT089-11098-00201 and  
First Administrative Amendment AAT089-11158-00201**



## ALABAMA POWER LAW (CDS)/EIS CALCULATIONS

Appendix A

Jupiter Aluminum Corporation  
1745 - 165th Street  
Hammond, IN 46320

PLANT ID NO: 089-00201  
INSP DATE: 5/19/99  
CALC DATE: 6/18/99

CALCULATIONS BY: Ronald Holder

YEAR OF DATA: **new**NO. OF POINTS: 2

## \*\*NOTES\*\*

EF: EMISSION FACTOR  
CE: CONTROL EFFICIENCY

MDR: MAXIMUM DESIGN RATE  
MDC: MAXIMUM DESIGN CAPACITY

Ts: STACK DISCHARGE TEMPERATURE  
UNITS FOR EMISSIONS ARE IN (TPY) EXCEPT WHERE GIVEN

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Two Stacks AS-6.1 and AS-6.2

**Annealing Furnace #4**

(Natural Gas Combustion)

CNTRL DEV: NONE

MDC (MMBtu/hr): 13.5  
MDR (MMcft/hr): 0.0135

HEAT CONTENT (Btu/cft): 1000  
QTY BURNED (mmcft/yr): N/A

each STACK ID (DIAM:HEIGHT): (3': 35')  
FLOWRATE (ACFM): 1800  
Ts(°F): 170

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 3-90-006-89			POTENTIAL EMISSIONS						ALLOWABLE		COMPANY ACTUAL	
			BEFORE CONTROLS			AFTER CONTROLS			(lbs/hr)	(TPY)	BEFORE CONTROLS	AFTER CONTROLS
			(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)				
POLLUTANT	EF(lbs/MMcft)	CE (%)										
PM	3	0	0.041	0.972	<b>0.177</b>	0.041	0.177	N/A	0.041	0.177	#VALUE!	#VALUE!
PM10	3	0	0.041	0.972	<b>0.177</b>	0.041	0.177	N/A	0.041	0.177	#VALUE!	#VALUE!
SOx	0.6	0	0.008	0.194	<b>0.035</b>	0.008	0.035	N/A	0.008	0.035	#VALUE!	#VALUE!
NOx	100	0	1.350	32.400	<b>5.913</b>	1.350	5.913	N/A	1.350	5.913	#VALUE!	#VALUE!
VOC	5.3	0	0.072	1.717	<b>0.313</b>	0.072	0.313	N/A	0.072	0.313	#VALUE!	#VALUE!
CO	20	0	0.270	6.480	<b>1.183</b>	0.270	1.183	N/A	0.270	1.183	#VALUE!	#VALUE!
LEAD	0.0005	0	0.000	0.000	<b>0.000</b>	0.000	0.000	N/A	0.000	0.000	#VALUE!	#VALUE!

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Two Stacks AS-7.1 and AS-7.2

**Annealing Furnace #5**

(Natural Gas Combustion)

CNTRL DEV: NONE

MDC (MMBtu/hr): 13.5  
MDR (MMcft/hr): 0.0135

HEAT CONTENT (Btu/cft): 1000  
QTY BURNED (mmcft/yr): N/A

each STACK ID (DIAM:HEIGHT): (3': 35')  
FLOWRATE (ACFM): 1800  
Ts(°F): 170

PERMITTED OPERATING HRS: **8760** hr/yr

SCC NO. 3-90-006-89			POTENTIAL EMISSIONS						ALLOWABLE		COMPANY ACTUAL	
			BEFORE CONTROLS			AFTER CONTROLS			(lbs/hr)	(TPY)	BEFORE CONTROLS	AFTER CONTROLS
			(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)				
POLLUTANT	EF(lbs/MMcft)	CE (%)										
PM	3	0	0.041	0.972	<b>0.177</b>	0.041	0.177	N/A	0.041	0.177	#VALUE!	#VALUE!
PM10	3	0	0.041	0.972	<b>0.177</b>	0.041	0.177	N/A	0.041	0.177	#VALUE!	#VALUE!
SOx	0.6	0	0.008	0.194	<b>0.035</b>	0.008	0.035	N/A	0.008	0.035	#VALUE!	#VALUE!
NOx	100	0	1.350	32.400	<b>5.913</b>	1.350	5.913	N/A	1.350	5.913	#VALUE!	#VALUE!
VOC	5.3	0	0.072	1.717	<b>0.313</b>	0.072	0.313	N/A	0.072	0.313	#VALUE!	#VALUE!
CO	20	0	0.270	6.480	<b>1.183</b>	0.270	1.183	N/A	0.270	1.183	#VALUE!	#VALUE!
LEAD	0.0005	0	0.000	0.000	<b>0.000</b>	0.000	0.000	N/A	0.000	0.000	#VALUE!	#VALUE!

## Annealing Furnaces #4 and #5

## Totals

POLLUTANT	POTENTIAL EMISSIONS						ALLOWABLE	
	BEFORE CONTROLS			AFTER CONTROLS			(lbs/hr)	(TPY)
	(lbs/hr)	(lbs/day)	(TPY)	(lbs/hr)	(TPY)	(gr/dscf)		
PM	0.081	1.944	0.355	0.081	0.355	N/A	0.081	0.355
PM10	0.081	1.944	0.355	0.081	0.355	N/A	0.081	0.355
SOx	0.016	0.389	0.071	0.016	0.071	N/A	0.016	0.071
NOx	2.700	64.800	<b>11.826</b>	2.700	11.826	N/A	2.700	11.826
VOC	0.143	3.434	0.627	0.143	0.627	N/A	0.143	0.627
CO	0.540	12.960	2.365	0.540	2.365	N/A	0.540	2.365
LEAD	0.000	0.0003	0.0001	0.000	0.0001	N/A	0.000	0.0001

\* This Title V source modification is classed "Minor Source Modification" according to potential emissions.

\* 326 IAC 2-7-10.5 (d)(4)(B), less than twenty-five (25) tons per year and equal to or greater than ten (10) tons per year of Nitrogen Oxides (NOx)